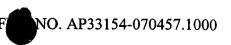WE CLAIM:

1. A method of conducting a transaction using a payment network, comprising:

(a) receiving by a service provider a first authorization request for the authorization of a transaction using a first payment account number, wherein:

(i) the first payment account number has a first BIN code associated with the service provider and is associated with a second payment account number having a second BIN code associated with an issuer of said second number, said second payment account number not being included in said first authorization request;

(ii) the first authorization request includes a first acquirer code associated with an acquirer; and

(iii) the first authorization request is routable through the payment network to the service provider based on said first BIN code;

(b) responsive to the first authorization request, transmitting by the service provider a second authorization request for authorization of the transaction using the second payment account number, the second authorization request including a second acquirer code associated with the service provider and being routable through the payment network to the issuer based on said second BIN code;

(c) receiving a response to the second authorization request by the service provider from the issuer, the response including the second acquirer code and being routable through the payment network based on that code; and

(d) transmitting a response to the first authorization request by the service provider to the acquirer based on the response to the second authorization request, the response to the first authorization request including the first acquirer code and being routable through the payment network based on that code.

2. The method of claim 1, wherein said response to the second authorization request from the issuer further includes said second payment account number, and said response to the first authorization request by the service provider further includes said first payment account number.

3. The method of claim 1, wherein said first authorization request comprises a message authentication code including transaction data, and said request is formatted with a standard track having a plurality of fields including a discretionary field in which said message authentication code is placed.

4. The method of claim 3, wherein said service provider verifies the message authentication code.

5. A method of conducting a transaction with a merchant over a communications network using a first payment account number that is associated with a second payment account number, the method comprising:

(a) generating a message authentication code based on one or more transaction details;

(b) transmitting at least the first payment account number and the message authentication code to the merchant;

(c) requesting by the merchant an authorization for payment of the transaction using the first payment account number, the request being formatted as if payment were tendered at a point-of-sale terminal with a conventional magnetic-stripe payment card, the format having a track with at least a discretionary data field and said message authentication code being transmitted in said discretionary data field;

(d) responsive to the authorization request for the first payment account number, requesting an authorization for payment of the transaction using the second payment account number; and

(e) accepting or declining the authorization request for the first payment account number based on the response to the authorization request for the second payment account number and the message authentication code.

6.   The method of claim 5, wherein said first and second payment account numbers include respective BIN codes, the first associated with a service provider and the second associated with an issuer of the second payment account number, said service provider receiving said merchant's request through a payment network based on said first BIN code, and wherein said service provider generates said request for authorization of payment using the second payment account number and routes said request to said issuer through said network based on said second BIN code.

7.   The method of claim 6, wherein said service provider includes in said request for authorization for payment an acquirer code associated with said service provider, such that said response from said issuer is routed back to said service provider.

8.   The method of claim 7, wherein said request by said merchant includes an associated merchant acquirer code, and wherein said service provider generates a message based on said accepting or declining step and routes that message to said associated merchant acquirer code.

9.   A method of conducting a transaction over a communications network comprising:

issuing by an issuer having an issuer BIN a first payment account number to a user having a computer, said issuer BIN being associated with said first payment account number;

providing a security module for generating a secret key unique to each first account number issued;

generating a second account number associated with said first payment account number;

providing a secure payment application by a service provider to said computer, said application comprising said second account number and said secret key;

storing said secure payment application on said computer;

selecting a merchant with whom to conduct said financial transaction, said merchant having an associated acquirer BIN;

passing to said computer transaction data;

generating a message authentication code based on said transaction data;

transmitting track data to said merchant, said track data comprising said message authentication code and said second account number;

generating a first authorization request based on said data;

transmitting said first request to said service provider;

verifying said first request with said secret key;

obtaining said first payment account number associated with said second account number;

transmitting a second authorization request using said first payment account number to said issuer BIN associated with said number; and

authorizing or rejecting said second request.

10. The method of claim 9, wherein said track data comprises a discretionary data field, an account number field, and an expiration date field, and wherein said transmitting track data step further includes

placing said message authentication data in said discretionary data field;

placing said second account number in said account number field; and

placing an expiration date in said expiration date field.

11. The method of claim 10, wherein said transaction data include said associated acquirer BIN, and a transaction amount.

12. The method of claim 11, wherein said verifying step further includes verifying said transaction data.

13. The method of claim 9, wherein said second authorization request includes an acquirer code associated with said service provider, and further comprising the steps of:

generating a message based on said authorizing or rejecting step;

forwarding said message to said service provider based on said acquirer code; and

using said merchant's associated acquirer BIN to advise said merchant of said message.